SUICIDE PROBABILITY AND RELATED FACTORS AMONG UNIVERSITY STUDENTS İN SANLIURFA

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Abstract

This study aimed to determine suicide, suicidal ideation and related predisposing factors among university students. The sample of this cross-sectional study included 1,451 students studying at a university in Sanlırfa between October 1, 2022 and January 1, 2023. Data were collected online using a questionnaire prepared by the researchers and the Suicide Probability Scale (SPS). The mean SPS score of the students was 73.53 ± 17.41. Sub-dimension scores were 26.55 ± 7.10 for the hopelessness sub-dimension, 12.19 ± 3.75 for the suicidal ideation sub-dimension, 12.21 ± 3.75 for the hostility sub-dimension and 22.5 ± 5.50 for the negative self-evaluation sub-dimension. Furthermore, it was observed that the total SPS score was higher in those with a monthly income of 20 \$ or less, smokers and substance users, those with a psychiatric history, those who had attempted suicide before, those with a history of attempted suicide in their family or environment, those who used psychiatric drugs and those who had been subjected to harassment or abuse before ($p < 0.05$). Addressing the possibility of suicide among university students and conducting periodic screenings in terms of mental health will contribute to planning preventive mental health services for university students.

Keywords: University Student, Suicide Probability, Şanlıurfa

ŞANLIURFA'DA ÜNİVERSİTE ÖĞRENCİLERİNİN İNTİHAR OLASILIKLARI VE İLİŞKİLİ FAKTÖRLER

Öz

Bu çalışmada üniversite öğrencilerinin intihar, intihar düşüncesi ve bunlarla ilgili hazırlayıcı faktörlerin belirlenmesi amaçlanmıştır. Kesitsel tipte olan bu araştırmanın örneklemini bir üniversitede öğrenim gören 1 Ekim 2022-1 Ocak 2023 tarihleri arasında ulaşılan 1451 öğrenci oluşturmaktadır. Veriler, araştırmacılar tarafından hazırlanan sosyo-demografik bilgi formu ve İntihar Olasılığı ölçeği (SPS) kullanılarak online toplanmıştır. Öğrencilerin intihar olasılığı ölçeğinden toplam aldıkları puan ortalaması 73.53±17.41 hesaplanırken, alt boyutlarında ise umutsuzluk alt boyutu 26.55±7.10, intihar düşüncesi alt boyutu 12.19±3.75, düşmanlık alt boyutu 12.21±3.75 ve olumsuz kendilik değerlendirmesi alt boyutu 22.5±5.50 olarak hesaplanmıştır. Aylık geliri 1000 tl ve altında olanların, sigara ve madde kullananların, psikiyatrik öyküsü olanların, daha önce intihar girişiminde bulunanların, ailesi veya çevresinde intihar girişiminde bulunanların, psikiyatrik ilaç kullananların, daha önce taciz veya istismara maruz kalanların intihar olasılığı ölçeği toplam puanın daha yüksek olduğu görülmüştür (p<0.05). Üniversite öğrencilerinde intihar olasılığının ele alınması, ruh sağlığı açısından periyodik taramaların yapılması üniversite öğrencilerine yönelik sunulacak koruyucu ruh sağlığı hizmetlerinin planlanmasında katkı sağlayacaktır.

Anahtar kelimeler: Üniversite Öğrencisi, İntihar Olasılığı, Şanlıurfa

1. INTRODUCTION

Suicide is a form of self-directed aggression that results in an individual intentionally ending his/her life (1). Self-destructive behaviour that is performed with the intention to die and is not completed is defined as a suicide attempt, and suicidal ideation is the thought process of having ideas or ruminations about the possibility of ending one's own life (2). Suicide is a serious public health problem triggered by psychological, sociological and biological processes and causes approximately 700,000 people to lose their lives yearly. In 2019, 703,000 people worldwide died by suicide (3). A suicide attempt happens every 4 seconds, and one person dies by suicide every 40 seconds. This places suicide among the leading causes of death (17th among all causes of death worldwide) (4).

According to WHO (2021), Africa has the highest crude suicide rate of 11.2, while the Southeast Mediterranean has the lowest crude suicide rate of 6.4. The global crude suicide rate was 18.9 for men and 9.5 for women in 2000 and decreased to 12.6 for men and 5.4 for women in 2019. The crude suicide rate in Turkey is reported to be 4.94 (5). In terms of gender, suicide is more common in men, and suicide attempts are more common in women (6). The American Foundation for Suicide Prevention (2021) reported that the crude suicide rate was highest in individuals aged 25–39 (18.35) and 75–84 (18.41) (7). It has also been shown that suicide is the second highest cause of death among individuals aged 10–34 years (8).

The university years represent a period of increased vulnerability to a wide range of mental health problems. Students who start university education face a number of challenges, such as adapting to a new academic system, making more important decisions for themselves than before and facing the consequences of these decisions, socializing and managing their financial situation. Students who have difficulty coping with these challenges may experience psychopathologies and adverse life events such as depression, anxiety disorders and social problems (9). It has also been reported that 75% of all psychopathologies occur by the age of 25 and that psychiatric diagnoses peak in young adulthood, which covers the university years of students who have regularly continued their education (10). In a study conducted by on suicide prevalence and causes of death among university students, it was concluded that suicide ranked first among the causes of death with 42.4%.(11). Also showed that stressful life events, sleep difficulties, hopelessness and social isolation experienced during university years were positively associated with suicide risk (12). The increasing incidence of mental health problems is also a growing public health problem on university campuses.

It is thought that addressing the related factors from a broader perspective while examining the suicidal behaviour of university students, who are within the age group with the highest risk for suicide, will benefit future preventive and protective studies. Therefore, the present study aimed to contribute to the relevant literature by examining suicide, suicidal ideation and related predisposing factors among university students.

2. MATERIALS AND METHODS

2.1. Research Design and Sampling

This study used a descriptive and cross-sectional design. The study was conducted with 24,684 students at Harran between October 1, 2022 and January 1, 2023. The minimum sample size was calculated with a crude suicide rate of 0.49% (TÜİK 2021) in a population of 24,683 with 1% certainty and 99% confidence and found to be 262. A total of 1,451 students were reached during the implementation of the study.

2.2. Data Collection Tools

Data were collected using an online questionnaire prepared by the researchers and the Suicide Probability Scale (SPS).

Online Questionnaire: This questionnaire consists of 22 questions on socio-demographic characteristics (age, gender, income, alcohol use and smoking, suicide attempts among friends, parents or relatives, death or serious psychiatric illness of one of the parents, divorce or separation of parents, family structure and exposure to sexual abuse, etc.).

Suicide Probability Scale (SPS): SPS is a 36-item scale developed by Cull and Gill (1988) to assess suicide risk in adolescents and adults, scored on a 4-point Likert scale. In the original form, the items are answered as "never or rarely" (1), "sometimes" (2), "often" (3) and "most of the time or always" (4). The score range is 36—144, and higher scores indicate a higher likelihood of suicide. The original form consists of four sub-dimensions: hopelessness (12 items), suicidal ideation (8 items), negative self-evaluation (9 items) and hostility (7 items). Turkish adaptation and validity of SPS were performed by Eskin (1993). The form used in the present study was developed by Atlı and Eskin (2009). The Cronbach's alpha reliability coefficient of the overall scale was 0.89. In the present study, it was calculated as 0.92. (13). Therefore, a high score on the scale is considered to be an indicator of a high likelihood of suicide.

2.3. Variables of the Study

The dependent variable is the total SPS score and sub-dimension scores. Independent variables are students' age, gender, income, class, place of residence, smoking, substance and psychiatric drug use, exposure to abuse or harassment, suicide attempts in family and friends and previous suicide attempts by the individual.

2.4. Data Collection

Google Forms was used to create the questionnaire, and the online link was shared with the participants. The purpose of the study was explained to the participants in the link, and their consent was obtained. Consent and forms obtained by the researchers were recorded and stored digitally. The confidentiality of responses was ensured, and the responses were only viewed on Google Forms through the e-mail account used by the researchers. The response time of the questionnaire is between 10–15 minutes.

2.5. Statistical Analysis

Statistical analysis was performed using the Statistical Package for Social Sciences (SPSS 22.0) program. Shapiro–Wilk W test was used to evaluate whether the data conformed to the normal distribution, and it was found that the data did not show normal distribution. For descriptive statistics analyses (number, percentage and mean values), Mann–Whitney U test, Kruskal–Wallis test, and multiple comparison tests were applied to evaluate the data. The value of $p < 0.05$ was accepted as statistically significant in all analyses.

2.6. Ethical Considerations

Ethical approval was obtained from the Clinical Research Ethics Committee of the university (Date: 19.09.2022, Issue: HRU.22.18.24), and necessary permissions were obtained from the Rectorate of the relevant university. Permission to use the scale was obtained from the researchers who conducted the Turkish validity and reliability study of the measurement tools used. The students were informed about the study on the first page of the online questionnaire and were asked to check "I agree to participate in the study" before proceeding. Students were informed on their social media accounts that they had the right to leave the study at any time, and that participation in the study was voluntary. Students who completed the form online were deemed to have agreed to participate in the study.

2.7. Limitations of the Study

The large sample size of the present study compared to previous studies strengthens the validity of the results. However, the fact that the study was performed in a certain period, it was based on participant statements, the consistency of the information could not be checked, and there was no official verification of this information can be listed as the limitations of the study.

3. RESULTS

The mean age of the students participating in the study was 20.67 (17-41), and 67.3% were female. In addition, 63.6% of the students stated that their monthly income was 1000 TL or less. Out of the total, 44.4% of the students were in 1st grade, 32.6% were in 2nd grade and 23.0% were in 3rd grade or higher. While 52.3% of the students stayed home with their families, 40.0% stayed in dormitories and the rest stayed alone or with friends.

Furthermore, 67.1% of the students stated that they lived in a nuclear family, 97.7% stated that their mother was alive, 92.8% stated that their father was alive and 87.8% stated that their mother and father lived together. Additionally, 18.2% of the students were smokers, and 5.02% reported substance use. Finally, 8.1% of the students stated that they had a history of psychiatric disease, 9.1% stated that they had attempted suicide before, 10.0% stated that they had a chronic disease, and 3.2% stated that they used a psychiatric drug.

In addition, 24.7% of the students stated that there had been suicides around them before, 10.4% stated that someone in their family had attempted suicide and 21.2% stated that they had been exposed to abuse and harassment.

According to the data given in Table 1, the mean total score of SPS was 73.53 ± 17.41, while mean sub-dimension scores were 26.55 ± 7.10 for the hopelessness sub-dimension, 12.19 ± 3.75 for the suicidal ideation sub-dimension, 12.21 ± 3.75 for the hostility sub-dimension and 22.5 ± 5.50 for the negative self-evaluation sub-dimension (Table 1).

Table 1. Mean Scores of Students on the Suicide Probability Scale

Overall Scale and Sub-Dimensions	n	X	Ss	Min	Max
Hopelessness	1451	26.55	7.10	12	48
Suicidal Ideation	1451	12.19	4.69	7	32
Hostility	1451	12.21	3.75	7	28
Negative Self-Evaluation	1451	22.55	5.50	9	36
General Total	1451	73.53	17.41	36	139

SPS scores of the students according to their socio-demographic characteristics are given in Table 2. Accordingly, the total mean rank of SPS was 718.47 for female students and 741.47 for male students, and the difference between gender and SPS total scale score was not statistically significant ($p > 0.05$). However, in the suicidal ideation sub-dimension, male students scored higher compared to female students, and the difference between genders was statistically significant (M: 737.48 and F: 720.41; $p < 0.05$).

In the negative self-evaluation sub-dimension, first-year students scored lower compared to other students, and the difference was statistically significant (1st year: 693.39, 2nd year: 755.88 and 3rd year: 752.39; $p < 0.05$).bWhen SPS total and sub-dimension scores were analyzed according to income status, it was found that all sub-dimension scores and total scores of students with a monthly

income of 20 \$ or less were significantly higher than the scores of students with a monthly income of over 20 \$ ($p < 0.05$).

Table 2. Students' Suicide Probability Scale Scores According to Socio-Demographic Characteristics

Variables	N (%)	Hopelessness Mean Rank	Suicidal Ideation Mean Rank	Hostility Mean Rank	Negative Self-Evaluation Mean Rank	General Total Mean Rank
Gender*						
Female	976 (67.3)	725.93	705.89	720.41	726.69	718.47
Male	475(32.7)	726.14	767.33	737.48	724.57	741.47
		0.993	**0.008**	0.465	0.928	0.326
Age*						
20 years and younger	842(58)	719.80	734.88	729.59	728.80	725.13
21 years and older	609(42)	734.57	713.72	721.03	722.13	726.07
		0.507	0.338	0.700	0.765	0.996
Grade **						
1	677(46.7)	718.51	703.45	704.79	693.39	698.73
2	473(32.6)	731.50	739.29	742.15	755.88	746.38
3 and above	30120.7)	734.21	755.85	748.33	752.39	755.32
		0.813	0.133	0.190	**0.021**	0.065
Income status(TL) **						
0-20 \$	923(63.6)	758.54	750.37	747.95	752.78	760.46
21-60 \$	233(16.1)	698.98	719.26	689.98	698.05	692.96
61 \$ and above	295(20.3)	645.51	655.08	685.76	664.27	644.28
		0.001	**0.003**	**0.030**	**0.004**	**0.001**
Residence **						
at home with family	759(52.3)	737.75	735.98	742.79	751.58	744.35
At home with friends or alone	112(7.7)	774.54	760.03	762.54	699.33	762.05
Dormitory	580(40.0)	701.25	706.37	696.98	697.67	695.02
		0.127	0.289	0.087	0.051	0.065

*Mann-whitney U Testi **Kruskal Wall Testi

Table 3 shows the SPS scores of the students according to their socio-demographic characteristics. When the total and sub-dimension scores of SPS were analyzed according to smoking status, it was observed that the total and sub-dimension scores were significantly higher for smokers compared to non-smokers ($p < 0.05$).

When the scores were analyzed according to substance use status, it was observed that the total and sub-dimension scores were significantly higher for students who reported substance use compared to students who did not ($p < 0.05$).

When the total SPS and sub-dimension scores of the students with a history of psychiatric illness were examined, it was found that the total and sub-dimension scores of the students with a history of psychiatric illness were significantly higher compared to other students ($p < 0.05$).

When SPS scores were analyzed according to previous suicide attempts, it was observed that the total SPS and sub-dimension scores of the students who had attempted suicide were significantly higher compared to students who had not attempted suicide ($p < 0.05$).

When SPS scores were analyzed according to previous suicide attempts, it was observed that the total SPS and sub-dimension scores of the students who had attempted suicide were significantly higher compared to students who had not attempted suicide ($p < 0.05$).

When SPS scores were analyzed according to the presence of suicide attempts amongst friends or family, it was observed that the total and sub-dimension scores of the students who reported suicide attempts in their environment or the family were significantly higher compared to students who did not (p < 0.05).

When SPS scores were analyzed according to the history of abuse or harassment, it was observed that the total SPS and sub-dimension scores of the students who reported a history of abuse or harassment were significantly higher than those who did not (p < 0.05).

When SPS scores were analyzed according to the use of psychiatric medication, it was observed that the total SPS and sub-dimension scores of the students who reported psychiatric medication use were significantly higher than those who did not (p < 0.05).

Table 3. Students' Scores on the Suicide Probability Scale According to Health Status

Variables	N (%)	Hopelessness Mean Rank	Suicidal Ideation Mean Rank	Hostility Mean Rank	Negative Self-Evaluation Mean Rank	General Total Mean Rank
Smoking*						
Yes	264(18.2)	869.72	869.71	887.14	814.12	884.32
No	1187(81.8)	694.03	694.04	690.16	706.40	690.79
		0.001	0.001	0.001	0.001	0.001
Substance Use*						
Yes	**72(5.0)**	984.80	1017.90	1019.56	843.42	1004.24
No	1379(95.0)	712.49	710.76	710.67	719.87	711.47
		0.001	0.001	0.001	0.015	0.001
History of Psychiatric disease*						
Yes	117(8.1)	980.14	1007.17	1011.85	900.06	1010.58
No	1334(91.9)	703.71	701.34	700.93	710.73	701.04
		0.001	**0.001**	**0.001**	**0.001**	**0.001**
Suicide attempt *						
Yes	132(9.1)	1046.53	1156.39	1053.58	1019.16	1127.09
No	1319(90.9)	693.92	682.93	693.22	696.66	685.86
		0.001	**0.001**	**0.001**	**0.001**	**0.001**
Suicide among friends *						
Yes	358(24.7)	848.02	876.40	868.97	803.78	867.36
No	1093(75.3)	686.03	676.40	679.17	700.52	679.70
		0.001	**0.001**	**0.001**	**0.001**	**0.001**
Suicide among family*						
Yes	151(10.4)	938.49	983.18	970.70	890.89	980.79
No	1300(89.6)	701.32	696.13	697.58	706.85	696.41
		0.001	**0.001**	**0.001**	**0.001**	**0.001**
Abuse or harassment*						
Yes	307(21.2)	911.78	908.43	931.69	841.72	925.50
No	1144(78.8)	676.14	677.04	670.80	694.95	672.46
		0.001	**0.001**	**0.001**	**0.001**	**0.001**
Psychiatric medication use*						
Yes	46(3.2)	1095.60	1043.23	1065.80	962.89	1107.09
No	1405(96.8)	713.90	715.61	714.87	718.24	713.52
Variables		**0.001**	**0.001**	**0.001**	**0.001**	**0.001**

*Mann-whitney U Testi

4. DISCUSSION

The WHO (2021) has emphasized that a previous suicide attempt is the most potent risk factor for suicide. When we look at the results of the present study, 8.1% of the students reported a history

of psychiatric disease, and 9.1% stated that they had attempted suicide before. A study conducted with university students in the USA reported that one-fifth of all students thought about suicide, 9% attempted suicide and approximately 20% self-harmed (14). In another study conducted with university students in China, it was found that 18% of the students had high suicidal ideation, 14.5% had suicide risk, 18.8% made suicide plans and 1% had attempted suicide, emphasizing the prevalence of suicide risk among Chinese university students (15). According to a screening study, the lifetime prevalence of suicidal ideation in adults is 9% worldwide, and the prevalence of suicide attempts is 2.7% (16). The prevalence of suicide attempts in the present study was significantly higher, which is an important and striking finding. We think that the increasing financial difficulties experienced by the students in recent years, the COVID-19 pandemic and associated lifestyle changes have led to an increase in stressors, and suicide attempts may have increased due to the feeling of helplessness. We believe that prioritizing the issue of suicide in support programs for university students and correct and effective psychosocial interventions can reduce these rates.

The mean scores of the students on the SPS are shown in Table 1. When we look at different studies conducted using SPS, in a study comparing high school students with university students, the mean SPS score of high school students was 65.33, while the mean SPS score of university students was 59.51 (17). In a different study conducted with university students, the mean SPS score was reported as 68.95. (18). In addition, Jones et al. (2022) reported that the possibility of suicide showed an increasing trend among university students (19). Based on the scores that can be obtained on the SPS, we can say that the suicide probability of students evaluated in the present study is at a moderate level. However, the mean SPS score obtained in the present study is higher than in the literature. It is thought that the high rate of suicide probability in our study and some recent studies may be due to the increasing prevalence of adverse life events, such as the recent pandemic and triggering individual stressors.

In the present study, 63.6% of the students stated that their monthly income was 1000 TL or less. The suicide probability score of students with a monthly income of 20 $ or less was higher than that of students with a monthly income of over 20 $. A study of university students in Brazil showed that suicidal ideation was more common among students from low economic backgrounds (20). Similarly, Toprak et al. (2011) reported a significant positive correlation between low economic income and suicide probability (21). Aries & Seider (2005) stated that students with low economic income are more aware of social inequalities, which may lead to thoughts of inadequacy, powerlessness, social isolation and marginalization (22). Students whose income or purchasing power has decreased due to the recent pandemic and other adverse life events may have experienced various self-evaluation problems. The relationship between suicide rate and low economic status may be explained by the fact that these students do not have the chance to engage in various protective activities, such as participating in social gatherings or having a hobby, which is often costly.

In the present study, 18.2% of the students were smokers and 5.0% reported substance use. SPS scores of students who smoked and used substances were significantly higher. A previous study reported that the use of alcohol and tobacco increased suicidal ideation in university students (23). In another study, it was reported that there was a significant positive correlation between suicide attempts and alcohol/substance use among young people. Kaslow and Lee (2010) stated that the use of psychotropics such as alcohol and drugs was linked to common anxiety disorder symptoms, panic attacks and self-harming behaviours (24). The relationship between psychotropic use and higher SPS scores of the students may be attributed to the deterioration of social relations, withdrawal, inability to develop coping skills and loss of psychosocial skills.

Among all, 10.4% of the students stated that someone in their family attempted suicide, and 24.7% stated that someone around them attempted suicide. Students who reported suicide attempts in their environment or family had higher SPS scores. In a similar study, the prevalence of suicidal ideation was found to be higher in those with a family history of suicide attempts (25). In a study

conducted in Turkey, it was found that 12.3% of the students had an acquaintance that attempted suicide. However, no significant difference was found between this result and the probability of suicide (26). It is thought that witnessing suicide attempts in the family or the environment may be seen and adopted by young people as a coping strategy and repeated later in life.

About 8.1% of the students stated that they had a psychiatric history, and 3.2% stated that they used psychiatric medication. Those with a psychiatric history and those using psychiatric medication had higher suicide probability scores. Similar results are reported in the literature (27-28). University students frequently experience psychological problems and are vulnerable to developing or exacerbating mental health problems. This may increase the probability of suicide. In addition, students who are unable to access or maintain treatment due to fear of stigmatization, financial constraints, problems with hospital appointments and access to medication may be at risk of suicide as a result.

Around 21.2% of the students in the present study stated that they were subjected to abuse or harassment as children. These students had higher suicide probability scores. In a study conducted among university students in the United Kingdom, it was reported that exposure to physical, emotional neglect, abuse or violence as a child increased the probability of suicide (29). Liu et al., (2022) conducted a study with 6834 university students and found that childhood abuse was positively correlated with suicidal ideation (30). Tomson & Kaplan (1996) reported that individuals subjected to abuse showed depressive symptoms and experienced social adjustment problems (31). Individuals who show depressive symptoms as a result of being abused, which is a traumatic experience and is associated with post-traumatic stress disorder, may face situations such as social isolation, guilt and low self-esteem. Individuals experiencing such adverse events may have difficulty getting help due to social concerns such as stigmatization and may be at risk of suicide.

5. CONCLUSION AND SUGGESTIONS

University education is a time when students develop themselves individually, academically and socially. It is also known that university students are in the risk group for suicidal behaviour due to their age. Therefore, the results obtained in the present study may contribute to the intervention programs prepared for understanding and preventing suicidal behaviours. Furthermore, addressing the possibility of suicide and conducting periodic screenings in terms of mental health will contribute to planning preventive mental health services for university students.

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